

GEORGE AFB **CALIFORNIA**

ADMINISTRATIVE RECORD **COVER SHEET**

AR File Number 475035





Lahontan Regional Water Quality Control Board

April 8, 2016

Phillip Mook
Senior Air Force Representative
Air Force Real Property
AFRPA Western Region Execution Center
3411 Olson Street
McClellan, CA 95652-1003

Request for Soil Sampling at the School Properties, Non-CERCLA Site OT071, Former George Air Force Base, Victorville, San Bernardino County

The California Regional Water Quality Control Board, Lahontan Region (Water Board) hereby requests the U.S. Air Force conduct soil sampling for pesticides to evaluate the present human health risk to occupants at the two school properties located at the former George Air Force Base (GAFB). Our understanding of the use of pesticides at GAFB and at other schools in the state has evolved significantly since the school properties were transferred by the Air Force to the Adelanto School District. Conclusive empirical data are needed to unequivocally confirm whether there is a threat to human health to the occupants of the schools.

Background

GAFB was operational from 1941 to 1992, supporting a training and readiness mission that required military housing and support facilities such as schools. Two schools were built at the GAFB, the former George Elementary School and the former Shepard Middle School. These schools were built across the street (Nevada Avenue) from and during the same time period as the GAFB housing area. The school properties were transferred to the U.S. Department of Education in 1994 and then to the Adelanto School District in 1995. Soil sampling conducted between 2002 and 2006 discovered the pesticide dieldrin in the housing area at concentrations that exceed human health-based criteria. Because the school properties were transferred in the mid-1990s before pesticide contamination was discovered in surface soil and groundwater at the former housing area, the properties were transferred with Environmental Condition Category (ECC) 2, which at the time meant areas where only storage of hazardous substances or petroleum products may have occurred, but no release or disposal had occurred, or migration from adjacent areas had occurred. Consequently, the federal deed contains no environmental restrictive covenants.

According to Air Force documents, pesticides including dieldrin were applied at the former housing area beneath and around the building foundations for termite control, with the additional applications of pesticide every three to five years. Dieldrin is a toxic chlorinated pesticide that is relatively persistent and immobile. Its use in the U.S. was restricted starting in 1974 and was banned entirely in 1987. Dieldrin can cause adverse health effects when

AMY L. HOHME, PHO, CHAIR | PATTY Z. KOLYGUMBERAN, EXECUTIVE OFFICER

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present at high concentrations. Dieldrin has been linked to human health problems including Parkinson's disease and breast cancer, and damage to the immune, reproductive, and nervous systems. Dieldrin tends to bioaccumulate as it is passed along in the food chain.

In a letter from the Water Board to you dated December 19, 2014 (Enclosure 1), the Water Board requested a summary of whatever soil characterization data had been collected at the two schools and any associated evaluation of human health risk. The Air Force responded on January 30, 2015 in a letter signed by you (Enclosure 2). That Air Force response made the following points:

- The Air Force could not find any records that identified the builder of the schools or the exact construction dates and concluded that the schools were not built by the Air Force or the U.S. Army Corps of Engineers.
- 2. Based on the review of a limited number of aerial photographs, the Air Force concluded that the elementary school was built prior to the oldest available GAFB aerial photograph acquired in January 23, 1958. The Air Force also concluded that the middle school was built between June 1959 and May 1968 based on aerial photographs. The Air Force stated that "Apparently, these school buildings and grounds were maintained by the Adelanto School District."
- 3. The Finding of Suitability to Transfer (FOST) for the schools parcel (E-1) was coordinated with regulatory agencies and finalized in August 1994.
- 4. "The Air Force concludes that issues with dieldrin or other termiticides in the soils associated with how the base family housing was constructed and maintained are not present with the school buildings and grounds."
- 5. "Moreover, if pesticides are or become an issue in the soils of Parcel E-1, then the Adelanto School District is primarily responsible since Parcel E-1 was 'uncontaminated' when transferred to them in 1995."

The inability of the Air Force to locate records that identify the builder of the schools or the exact construction dates does not prove that the Air Force was not involved in the construction of the schools. The two schools were built during the same general time period as the housing area, where pesticides were applied during and after construction. Similar application of pesticides may have occurred at the two school properties, which were owned by the Air Force from approximately 1941 until 1994. The period of Air Force ownership of the school properties includes the time period when dangerous chlorinated pesticides such as dieldrin were commonly used (up until 1987).

The history of the FOST does not relieve the Air Force of liability for activities conducted on property owned by the Air Force prior to the transfer to the school district. The use of pesticides at the school properties in Parcel E-1 have not been ruled out by historical documentation or sampling of the soils. The school properties were classified as ECC 2 prior to the realization that dieldrin is present in soils at the housing area across the street from the schools at GAFB and prior to dieldrin being documented at many school sites in California as described below.

Justification for Technical Reports

The request for technical reports is necessary to determine the nature and extent of organochlorinated pesticide residuals in soils at the two schools, and to ensure public health

protection. Soil sampling by the Department of Toxic Substances Control (DTSC) across the state of California has revealed that dieldrin is generally present at schools in the state due to the historical application of pesticides. In fact, at the majority of schools constructed prior to 1990 in California where soil sampling has been conducted by DTSC for organochlorinated pesticides, dieldrin has been detected (Maria Gillette, DTSC Schools Unit, personal communication, 2016). Given the lack of clarity expressed by the Air Force as to school building ownership, and no evidence to support the Air Force conclusion that issues with dieldrin are not present at the schools, the Water Board is requesting the Air Force show empirical proof of their position.

The burden to the Air Force in compiling these required technical reports, including costs, is outweighed by the Water Board's need for the information to determine to what extent organochlorinated pesticides continue to remain in soils and the potential exposure of the public to these chemicals. The information is also necessary to determine what, if any, additional investigation and/or corrective actions may be required to address human health and water quality.

Duty to Use Registered Professionals. The Dischargers shall provide documentation that plans and reports are prepared under the direction of appropriately qualified professionals. California Business and Professions Code sections 6735, 7835 and 7835.1 require that engineering and geologic evaluations and judgments be performed by or under the direction of registered professionals. A statement of qualifications and registration numbers of the responsible lead professionals shall be included in all plans and reports submitted. The lead professional shall sign and affix their registration stamp to the report. plan or document.

Request to Submit Technical Reports

The U.S. Air Force is hereby requested to submit the following technical reports according to the schedule, below.

Required Technical Reports Due Date 1. Organochlorinated Pesticide Soil Sampling Work Plan April 22, 2016 2. Soil Investigation Report, including results of all soil analyses May 27, 2016

The work plan should specify sample locations and analytical methods for both school properties. We recommend the soil samples be analyzed by USEPA Method 8081A for organochlorinated pesticides (including dieldrin) and USEPA Method 6010A for metals (including arsenic and lead). The work plan should also include human health risk assessment methodologies that discusses how the collected data will be used to evaluate risks associated with exposures of students and staff in the schools. Please refer to the Guidance for Assessing Exposures and Health Risks at Existing and Proposed School Sites, Final Report (CalEPA/OEHHA, 20014).

We look forward to working with the Air Force to review the results of the soil sampling and evaluate any risks associated with detected concentrations of organochlorinated pesticides and metals.

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If you have any questions regarding this letter, please contact me at (760) 241-7325, Mike.Plaziak@waterboards.ca.gov or Todd Battey at (760) 241-7340, Todd.Battey@waterboards.ca.gov.

Mike Plaziak, PG Division Manager

South Lahontan Watersheds Division

Enclosures: 1. Letter from the Water Board to the Air Force dated December 19, 2014

2. Letter from the Air Force to the Water Board dated January 30, 2015

cc with enclosures:

Donald Gronstal, Air Force Mary Aycock, USEPA, Region IX Eric Canteenwala, USEPA, Region IX Dan Ward, DTSC Maria Gillette, DTSC Schools Unit Calvin Cox, CNGS Tarek Ladaa, CB&I David Daftary, CB&I Mark Thomas, CB&I Susan Soloyanis, Sologeo, LLC, Keith Metzler, City of Victorville, SCLA Eric Ray, City of Victorville, SCLA Steve Ashton, City of Victorville, Public Works Logan Olds, VVWRA Tom Thornton, City of Adelanto, Operations Anna Garcia, Mojave Water Agency

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Lahontan Regional Water Quality Control Board

December 19, 2014

Phil Mook
Senior Air Force Representative
Air Force Real Property
AFRPA Western Region Execution Center
3411 Olson Street
McClellan, CA 95652-1003

VIOLATION OF LAND USE CONTROLS AT SITE OT071, WHICH INCLUDES THE FORMER HOUSING AREA AT THE FORMER GEORGE AIR FORCE BASE, SAN BERNARDINO COUNTY

California Regional Water Quality Control Board (Water Board) staff recently observed fence construction field work being done at the former George Air Force Base (GAFB) by City of Victorville (City) workers. It appears there were violations of the land use controls established for the former housing area at GAFB during this project. Specific land use controls established during the transfer of the former base property to the City protect human health from known pesticide soil contamination at the housing area were not followed, resulting in an unknown risk to site workers. We request the Air Force provide additional information to ensure that the required land use controls are followed in the future, as detailed further in this letter.

Background

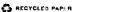
The former housing units were constructed starting in 1961 and used for housing military personnel until 1992. Pesticides including dieldrin were applied beneath and around the building foundations for termite control, with application of pesticide every three to five years. Dieldrin is a toxic chlorinated pesticide that is relatively persistent and immobile, and its use in the U.S. was phased out from 1974 to 1987. Dieldrin can cause adverse health effects when present at high concentrations. Dieldrin has been linked to human health problems including Parkinson's disease and breast cancer, and damage to the immune, reproductive, and nervous systems. Dieldrin tends to bioaccumulate as it is passed along in the food chain.

Soil sampling conducted between 2002 and 2006 determined dieldrin was present in site soils. The Air Force transferred the former housing area to the City in 2007 after finalizing the Findings of Sultability to Transfer (FOST) document. Land use restrictions were established during the transfer and documented in the associated quitclaim deed.

The deed included the agreement that the new land owner (the Southern California Logistics Airport Authority of the City)...

AMY L. HORNE, PHD, CHAIR | PATTY Z. KOUYOUMDJIAN, EXECUTIVE OFFICER

14440 Civic Drive, Suite 200, Victorville, CA 92392 | www.waterboards.ca.gov/lahontan



December 19, 2014

"will not conduct, or allow others to conduct, any soil disturbing activities (e.g., construction, digging, excavating, drilling, grading, removing, trenching, filling, moving, farming/planting, or mining) without a Health and Safety Plan."

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The author of the health and safety plan must have the appropriate training to develop appropriate protective measures (e.g., personal protective equipment) and training requirements (e.g., hazardous waste operation or HAZWOPER training) for site workers.

In your letter to the City dated February 4, 2005 (Enclosure 4), the Air Force described the site conditions as follows:

"The Air Force has analytical testing data indicating elevated soil contamination levels of the pesticides Aldrin and Dieldrin in the housing area. The Air Force believes that the surface and shallow subsurface soil contamination is pervasive through the housing area, particularly under house foundations. The pesticides could present a risk to human health if soils are inhaled, ingested, or contacted by skin. Any wastes generated by digging must be handled as hazardous until proven otherwise."

Recent Field Observations

Water Board staff conducted a site visit on October 7, 2014. Access to the former housing area was not controlled by fencing and no warning signs appeared to be present. Moreover, the former housing area is accessible to the general public. A work crew was observed drilling fence posts along the east side of Nevada Avenue at the edge of the former housing area. The 2-man crew was using a Bobcat-mounted auger to drill holes into the soil along the street and removing soil from the augers by hand without gloves or any other visible personal protective equipment (Enclosure 2). Water Board staff asked the work crew if they had a health and safety plan. The crew was not able to provide a health and safety plan, but did provide their paperwork from Harris Steel Fence Co., Inc. from San Pedro. The paperwork showed a City of Victorville contact name and number: Mr. Rick Falzone at 760-686-0253. Water Board staff called that contact and requested a copy of the health and safety plan for the fence post drilling. Several work days later, Mr. Eric Ray from the City of Victorville and the Southern California Logistics Airport sent an email that indicated "This project was completed without a Health and Safety Plan as it was deemed unnecessary" (Enclosure 3). The letter went on to state the reasons why a health and safety plan was not considered necessary; however, it did not include information on how the restrictions in the deed were complied with. Recent soil sampling between the housing area and Nevada Avenue has not been conducted to determine whether dieldrin is present in the area of the fence post drilling. The concentrations remaining in the shallow soil at the former housing area site were documented in 2006, when concentrations well above healthbased screening levels were found.

Also observed during the October 7, 2014, site visit was a paint ball recreation area and stockpiled soils with building debris. Paint ball games are not addressed directly in the deed, but may lead to human exposure to dieldrin contained in soil through inhalation of dust, dermal contact, or incidental ingestion. The soil piles may be from the housing demolition noted by Mr. Mook in the 2005 letter or may be from post-transfer soil disturbances that would require a health and safety plan according to the deed.

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The violation in land use controls observed at the former housing area is significant beyond the specific fence post drilling incident. Land use controls are being selected by the Air Force as a key element of final remedies for other sites located at the former George AFB and other bases. It is imperative that the Air Force demonstrate that approved land use controls are reliably implemented, even after properties are transferred. The ability of regulatory agencies to approve of land use controls as an integral component of final remedies will be limited if land use controls prove ineffective after properties are transferred.

Concern Regarding Schools

Another concern related to dieldrin soil contamination is the presence of schools located adjacent to the former housing area; namely, the former George AFB Elementary School and George Junior High (Middle) School. These schools were apparently built during the same time period as the housing units and similar construction procedures may have been followed, including the possible application of pesticides for termite control. These schools were transferred to the Adelanto Unified School District in 1994. The former elementary school is now operated as an adult educational facility called Taylion High Desert Academy. The former middle school is now leased by Adelanto Unified School District to Excelsion Charter School (grades 7-12). Apparently, the soils at these schools have not been tested for dieldrin.

Information Needed

The Water Board hereby requests the following information from the Air Force to control current and future risks to human health and the environment from the known presence of dieldrin in soil at Site OT071, which includes the former housing unit.

- 1. Summarize the current process being followed to ensure the City implements the land use controls required in the deed for Site OT071. The Water Board requests this summary by February 2, 2015.
- 2. Provide a report to explain how all the existing land use restrictions at the former air force base are being implemented and their effectiveness. This report should include a thorough evaluation of land uses, including past, present, and likely future land uses. The Water Board requests this land use control report by March 9, 2015.
- 3. Describe the measures that will be taken by the Air Force to address the violation of the land use controls by the City. Please include all steps the Air Force intends to take to address the violation and prevent future land use control violations. The Water Board requests this description by February 2, 2015.
- 4. Summarize whatever soil characterization data has been collected at the two schools located near the former housing area, provide any associated evaluation of human health risk, and clarify when the schools were built. The Water Board requests this information by February 2, 2015.

December 19, 2014

If you have any questions regarding this letter, you may contact Todd Battey at (760) 241-7340, Todd.Battey@waterboards.ca.gov, or me at (760) 241-7325 Mike.Plaziak@waterboards.ca.gov.

Supervising Engineering Geologist

Enclosures:

Mr. Mook

1) Quitclaim Deed

2) Photograph of drilling along Nevada Avenue

3) Email dated November 4, 2014, from Eric Ray (City of Victorville) to

Todd Battey (Water Board)

4) Letter dated February 4, 2005, from Phil Mook to Jon Roberts

CC:

Dan Medina, USAF, AFCEC/CZRW, Western Region Branch Chief

Don Gronstal, USAF, BRAC Environmental Coordinator

Michael Kelly, AF Attorney

cc w/o encl:

Mary Aycock, USEPA, Region IX

Eric Esler, USEPA Attorney

Calvin Cox. CNGS

Keith Metzler, City of Victorville, SCLA Eric Ray, City of Victorville, SCLA

Steve Ashton, City of Victorville, Public Works Tom Thornton, City of Adelanto, City Engineer

Logan Olds, VVWRA

Andre De Bortnosky, City of Victorville Attorney

Gloria Garcia, Mayor, City of Victorville Kim Niemeyer, Water Board Attorney

Elena Burnett, Adelanto Elementary School District

Brett Jurgensen, Federal Bureau of Prisons

Ivman Shiblak, Cal OSHA, Manager Steve Hunt, Victorville Daily Press Editor

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DEPARTMENT OF THE AIR FORCE AIR FORCE CIVIL ENGINEER CENTER

JAN 80 2015

AFCEC/CIBW 3411 Olson Street McClellan, CA 95652-1003

Mr. Mike Plaziak Lahontan Regional Water Quality Control Board 14440 Civic Drive, Suite 200 Victorville, CA 92392

Dear Mr. Plaziak:

Re: RWQCB Letter dated 19 December 2014 re Violations of LUCs or ERCs at Site OT071, Former George Air Force Base (AFB)

The Air Force is in receipt of your letter dated December 19, 2014 (Attachment 1). The letter provides the results of your staff's site visit to the former George AFB performed on October 7, 2014. Specific RWQCB concerns are:

- Access to the former housing area was not controlled by fencing and no warning signs appeared to be present, making this area accessible to the general public.
- A City of Victorville (City) work crew was on site drilling fence posts along the
 east side of Nevada Avenue and removing soil from the augurs by hand without
 gloves or any other personal protective equipment and the workers could not
 provide a health and safety plan.
- A paint ball recreation area and stockpiled soils with building debris was observed.
- A concern related to dieldrin soil contamination is in the presence of schools located adjacent to the former housing area (to the west).

Your letter stated there were apparent violations of land use controls (LUCs) established in the Air Force deed (attached to your letter) that conveyed most of the former base's family housing area to the Southern California Logistics Airport Authority (SCLAA), since the fence construction project, paint ball area and stockpiled soils are within the former housing area.

The first three RWQCB concerns are addressed below:

- An Air Force field investigation confirmed that the fence construction project, the
 paint ball area, and stockpiled soils are within the former housing area. We agree
 that some of the environmental restrictive covenants (ERCs) were not properly
 addressed prior to the construction of the fence. Also, we agree the paint ball
 recreation activities and the stockpiled soils may need to be addressed to insure
 protection to human health and the environment.
- The Air Force has taken the following actions to insure the City strictly follows the ERC's within the housing deed. The Air Force documented the required

- corrective actions in a letter sent to the City dated January 29, 2015, (Attachment 2). The letter requests the SCLAA to review the referenced deed, specifically, Sections VII.A.1(b), VII.B.2(c), VII.B.2(d) Environmental Restrictive Covenants (ERCs) and VIII.C, which were inserted into the letter.
- Our letter to the City requests their response to Air Force corrective actions, regarding the first three RWQCB concerns listed above. The letter requests the City to also accomplish additional actions to preclude the repetition of these situations occurring in the future. The Air Force requested the City respond to our letter by March 2, 2015.

The Air Force will review the City's responses and coordinate them and any follow-on actions with the RWQCB. The Air Force will monitor these corrective actions to ensure continued compliance. Any non-compliance issues will be addressed to the City with a copy to your office.

Below are the Air Force responses to the RWQCB's fourth concern - the soil characterization at the two schools near the housing area:

- The schools were not constructed by the Air Force or the U.S. Army Corps of Engineers. In a search for construction history, no records have been found to identify the builder and exact construction dates. The elementary school was built prior to January 23, 1958, based on the oldest George AFB aerial photograph available, dated January 23, 1958. The middle school appears to have been built between June 1959 and May 1968, again based on reviewing past aerial photographs during that period. Apparently, these school buildings and grounds were maintained by the Adelanto School District.
- The Draft Finding of Suitability to Transfer (FOST) was coordinated with the State's Environmental Protection Agency (Cal EPA) and the U.S. EPA Region IX (US EPA) on February 4, 1994. Regulatory comments were received and incorporated as appropriate. The Final FOST was approved on August 18, 1994 and distributed on August 19, 1994, to Cal EPA and US EPA, as well as many other agencies including the RWOCB, Lahontan Region-Victorville.
- In Section 5.1, the Final FOST states that, after evaluation of the environmental documents listed in Section 1.b (Environmental Impact Statement [EIS] March 1992; Disposal and Reuse Record of Decision [ROD] January 1993; Disposal and Reuse Supplemental ROD September 1993 and Environmental Baseline Survey [EBS] December 1993), no environmental factors/resources to include pesticides/ herbicides, pose a threat to human health and the environment. The Environmental Condition Category (ECC) for Parcel E-1 was ECC 2. At that time, ECC 2 meant areas where only storage of hazardous substances or petroleum products has occurred (but no release, disposal, or migration from adjacent areas has occurred). Using the current ECCs, this parcel would be considered uncontaminated.
- Based on the Final FOST, the Air Force assigned Parcel E-1 (the grounds supporting these two schools) to the Secretary of the Department of Education (DOEd) for conveyance to the Adelanto School District, Adelanto, California, for use in its public education system on September 23, 1994. The DOEd transferred

Parcel E-1 to the Adelanto School District, in May 1995. The federal deed contains no environmental restrictive covenants.

- The Air Force concludes that issues with dieldrin or other termiticides in the soils associated with how the base family housing was constructed and maintained are not present with the school buildings and grounds. Moreover, if pesticides are or become an issue in the soils of Parcel E-1, then the Adelanto School District is primarily responsible since Parcel E-1 was "uncontaminated" when transferred to them in 1995.
- Again, the Final FOST and the supporting Basewide EBS indicate that no Air Force investigatory or remediation activities are required for Parcel E-1, as a result of Air Force activities prior to the Final FOST, and since no Air Force activities have occurred on Parcel E-1 since its transfer to the Adelanto School District in 1995.

The Air Force will continue its search for historical records that could provide new and relevant information.

My point of contact for this letter is Mr. Don Gronstal at (916) 643-0830 ext. 211, or me at (916) 643-1250 ext. 100.

Sincerely,

PHILIP H. MOOK, JR.

Chief, Western Execution Branch

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Attachments:

- 1. RWQCB letter to Air Force, dated December 19, 2014
- 2. Air Force letter to City of Victorville, dated January 29, 2015

cc:

Adelanto Elementary School District, Attn: Elena Burnett

AFCEC/CIBW-McClellan, Attn: Administrative Record

AFCEC/CIBW-McClellan, Attn: Donald Gronstal (electronic)

AFCEC/CIBW-Lackland, Attn: Joseph Ebert (electronic) AFCEC/CZRW-Lackland, Attn: Dan Medina (electronic)

CAL/OSHA, Attn: Ayman Shiblak

City of Victorville, Attn: Mayor Gloria Garcia

City of Victorville, Attn: Andre De Bortnosky (Attorney)

City of Victorville-SCLAA, Attn: Keith Metzler

City of Victorville-SCLA, Attn: Eric Ray (w/o atch)

City of Victorville-Public Works, Attn: Steve Ashton (w/o atch)

City of Adelanto, Attn: Tom Thornton

CNTS: Attn: Calvin Cox (electronic)

(cc list continued on next page)

DAF/SAF/GCN-SA, Attn: Michael P. Kelly, Counsel (electronic)

RWQCB-Lahontan, Attn: Linda Stone RWQCB-Lahontan, Attn: Mike Plaziak RWQCB-Lahontan, Attn: Kim Niemeyer (Attorney)

RWQCB-Lahontan, Attn: Kim Niemeyer (Attorney)
U.S. EPA-Region 9, Attn: Eric Esler (w/o atch)
U.S. EPA-Region 9, Attn: Mary Aycock (w/o atch)
U.S. Federal Bureau of Prisons, Attn: Brett Jurgensen

VVWRA, Attn: Logan Olds

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ADMINISTRATIVE RECORD

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